

**THE SCHOOL BOARD OF BROWARD COUNTY, FLORIDA**

**ENVIRONMENTAL HEALTH & SAFETY DEPARTMENT**

**TELEPHONE (754) 321-4200**

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August 28, 2015      Signature on File

TO:                    Sherry Bees, Principal  
                          **Maplewood Elementary**

FROM:                Robert Krickovich, Coordinator, LEA  
                          Environmental Health & Safety Department

SUBJECT:    Indoor Air Quality (IAQ) Assessment

<u>For Custodial Supervisor Use Only</u>	
<input type="checkbox"/>	Custodial Issues Addressed
<input type="checkbox"/>	Custodial Issues Not Addressed
<hr/>	
<hr/>	

On August 26, 2015, I conducted an assessment at **Maplewood Elementary School**. Attached are findings and recommendations for further assessment, remediation, or corrective actions needed.

The IAQ assessment did identify one or more existing conditions impacting IAQ and has generated appropriate work orders to correct deficiencies in systems and maintenance that could contribute to decreased indoor air quality. At the time of the assessment, these concerns were not an immediate health or safety concern to building occupants. However, due to individual sensitivities and predisposing health factors, it is possible that some building occupants may elicit a health response to agents and / or conditions identified during the evaluation. Therefore, to further improve IAQ, prevent development of future IAQ-related problems, and to reduce the potential for IAQ-related complaints by building occupants, the IAQ Assessment Team recommends appropriate follow up of each item identified and listed in the attached evaluation.

*Please ensure that your Head Facilities Serviceperson receives a copy of this correspondence so that the recommendations requiring their attention can be addressed. In an attempt to separate IAQ issues from general maintenance items, the attached assessment may contain direction for site based staff to generate a work order through COMPASS. Within two weeks a representative from the Custodial/Grounds Department will conduct a follow-up visit to ensure that all site based custodial issues have been appropriately addressed.*

Should any questions arise, or if the current concerns continue after the attached recommendations have been addressed, please feel free to contact us at 754-321-4200.

- cc:      Shelley Meloni, Director, Pre-Construction  
          Mark Dorsett, Manager, Zone 1, Physical Plant Operations Division  
          Broward Teachers Union  
          Federation of Public Employees  
          Gerald Devio, Supervisor II Custodial  
          Benjamin Osborne, Supervisor II Custodial  
          Rich Volipi, Supervisor II Custodial  
          Mark Murray, Supervisor II Custodial  
          Sam Bays, Director, Maintenance Operations  
          Kurt Wirz, Area Manager Trades

RK/je  
Enc.

# IAQ Assessment

Maplewood Elementary

Evaluation Date August 26, 2015

Time of Day 10:00 AM

Outdoor Conditions Temperature 88.1

Relative Humidity 67.4

Ambient CO2 454

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">154</span>	<span style="border: 1px solid black; padding: 2px;">75.0</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">46.8</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">1003</span>	<span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">4</span>
Noticeable Odor		<span style="border: 1px solid black; padding: 2px;">No</span>	Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling	<span style="border: 1px solid black; padding: 2px;">2' X 4' Lay in</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Walls	<span style="border: 1px solid black; padding: 2px;">Tack Board</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Floor	<span style="border: 1px solid black; padding: 2px;">12" x 12" Vinyl</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Ceiling Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	HVAC Supply Grills Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	HVAC Return Grills Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>
Walls Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Supply Duct Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Return Duct Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>
Flooring Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Ceiling at Supply Grills Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>			
Room Surfaces Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>						
Trash Removed	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Exhaust Fans Working		<span style="border: 1px solid black; padding: 2px;">N/A</span>	Unapproved Chemicals / Cleaners in Room		<span style="border: 1px solid black; padding: 2px;">No</span>
Signs of Pests	<span style="border: 1px solid black; padding: 2px;">No</span>	Drain Traps Wet		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Air Fresheners in Room		<span style="border: 1px solid black; padding: 2px;">No</span>
Room Cluttered	<span style="border: 1px solid black; padding: 2px;">No</span>	Food if Stored in Room is in Sealed Containers		<span style="border: 1px solid black; padding: 2px;">N/A</span>			
Mechanical Equipment Location	<span style="border: 1px solid black; padding: 2px;">FISH 158</span>					Mechanical Room Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Filters Installed Properly	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Filters Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of HVAC Unit Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>
Condensate Pan Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Cooling Coil Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>			
Fresh Air Intake Location	<span style="border: 1px solid black; padding: 2px;">Roof top</span> ▼					Fresh Air Intake Free of Obstruction	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Pollutant Sources Near Air Intake	<span style="border: 1px solid black; padding: 2px;">None</span> ▼						

**Observations**

Throw rugs in room not cleaned properly - chemical / soap still in carpet - carpet scrubbed with floor machine but not with extractor - HFSP stated chemical used was disposed of by pouring down drain. Condensate drain in 158 overflowing on floor (call placed to Zone 1 to repair) - carpet rolled up on floor saturated - HFSP says this happens often and they pour stripper in drain to clear it.

**Corrective Actions to be Completed by Site Based Staff**

Thoroughly rinse and extract carpets	▼
Use proper equipment and dilution in future	▼
Dispose of wet carpet stored in mechanical room	▼
	▼
	▼
	▼
	▼
	▼

**Corrective Actions to be Completed by PPO**

Instruct staff on proper use of equipment	▼
instruct staff on proper procedures for chemical disposal	▼
Clear condensate drain in 158	▼
	▼
	▼
	▼
	▼

# IAQ Assessment

Maplewood Elementary

Evaluation Date August 26, 2015

Time of Day 10:00 AM

Outdoor Conditions Temperature 88.1

Relative Humidity 67.4

Ambient CO2 454

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">153</span>	<span style="border: 1px solid black; padding: 2px;">73.7</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">46.8</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">970</span>	<span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">2</span>
Noticeable Odor		<span style="border: 1px solid black; padding: 2px;">No</span>	Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling	<span style="border: 1px solid black; padding: 2px;">2' X 4' Lay in</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Walls	<span style="border: 1px solid black; padding: 2px;">Tack Board</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Floor	<span style="border: 1px solid black; padding: 2px;">12" x 12" Vinyl</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Ceiling Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	HVAC Supply Grills Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	HVAC Return Grills Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>
Walls Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Supply Duct Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Return Duct Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>
Flooring Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Ceiling at Supply Grills Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>			
Room Surfaces Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>						
Trash Removed	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Exhaust Fans Working		<span style="border: 1px solid black; padding: 2px;">N/A</span>	Unapproved Chemicals / Cleaners in Room		<span style="border: 1px solid black; padding: 2px;">No</span>
Signs of Pests	<span style="border: 1px solid black; padding: 2px;">No</span>	Drain Traps Wet		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Air Fresheners in Room		<span style="border: 1px solid black; padding: 2px;">No</span>
Room Cluttered	<span style="border: 1px solid black; padding: 2px;">No</span>	Food if Stored in Room is in Sealed Containers		<span style="border: 1px solid black; padding: 2px;">N/A</span>			
Mechanical Equipment Location	<span style="border: 1px solid black; padding: 2px;">FISH 158</span>					Mechanical Room Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Filters Installed Properly	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Filters Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of HVAC Unit Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>
Condensate Pan Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Cooling Coil Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>			
Fresh Air Intake Location	<span style="border: 1px solid black; padding: 2px;">Roof top</span> ▼					Fresh Air Intake Free of Obstruction	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Pollutant Sources Near Air Intake	<span style="border: 1px solid black; padding: 2px;">None</span> ▼						

**Observations**

Throw rugs in room not cleaned properly - chemical / soap still in carpet - carpet scrubbed with floor machine but not with extractor - HFSP stated chemical used was disposed of by pouring down drain. Condensate drain in 158 overflowing on floor (call placed to Zone 1 to repair) - carpet rolled up on floor saturated - HFSP says this happens often and they pour stripper in drain to clear it.

**Corrective Actions to be Completed by Site Based Staff**

Thoroughly rinse and extract carpets	▼
Use proper equipment and dilution in future	▼
Dispose of wet carpet stored in mechanical room	▼
	▼
	▼
	▼
	▼
	▼

**Corrective Actions to be Completed by PPO**

Instruct staff on proper use of equipment	▼
instruct staff on proper procedures for chemical disposal	▼
Clear condensate drain in 158	▼
	▼
	▼
	▼
	▼



# IAQ Assessment

Maplewood Elementary

Evaluation Date August 26, 2015

Time of Day 10:00 AM

Outdoor Conditions Temperature 88.1

Relative Humidity 67.4

Ambient CO2 454

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">151</span>	<span style="border: 1px solid black; padding: 2px;">75.4</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">47.1</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">1020</span>	<span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">10</span>
Noticeable Odor		<span style="border: 1px solid black; padding: 2px;">No</span>	Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling	<span style="border: 1px solid black; padding: 2px;">2' X 4' Lay in</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Walls	<span style="border: 1px solid black; padding: 2px;">Tack Board</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Floor	<span style="border: 1px solid black; padding: 2px;">12" x 12" Vinyl</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Ceiling Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	HVAC Supply Grills Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	HVAC Return Grills Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>
Walls Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Supply Duct Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Return Duct Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>
Flooring Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Ceiling at Supply Grills Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>			
Room Surfaces Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>						
Trash Removed	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Exhaust Fans Working		<span style="border: 1px solid black; padding: 2px;">N/A</span>	Unapproved Chemicals / Cleaners in Room		<span style="border: 1px solid black; padding: 2px;">No</span>
Signs of Pests	<span style="border: 1px solid black; padding: 2px;">No</span>	Drain Traps Wet		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Air Fresheners in Room		<span style="border: 1px solid black; padding: 2px;">No</span>
Room Cluttered	<span style="border: 1px solid black; padding: 2px;">No</span>	Food if Stored in Room is in Sealed Containers		<span style="border: 1px solid black; padding: 2px;">N/A</span>			
Mechanical Equipment Location	<span style="border: 1px solid black; padding: 2px;">FISH 158</span>					Mechanical Room Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Filters Installed Properly	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Filters Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of HVAC Unit Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>
Condensate Pan Clean	<span style="border: 1px solid black; padding: 2px;">Yes</span>	Cooling Coil Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>			
Fresh Air Intake Location	<span style="border: 1px solid black; padding: 2px;">Roof top</span> ▼					Fresh Air Intake Free of Obstruction	<span style="border: 1px solid black; padding: 2px;">Yes</span>
Pollutant Sources Near Air Intake	<span style="border: 1px solid black; padding: 2px;">None</span> ▼						

**Observations**

Throw rugs in room not cleaned properly - chemical / soap still in carpet - carpet scrubbed with floor machine but not with extractor - HFSP stated chemical used was disposed of by pouring down drain. Condensate drain in 158 overflowing on floor (call placed to Zone 1 to repair) - carpet rolled up on floor saturated - HFSP says this happens often and they pour stripper in drain to clear it.

**Corrective Actions to be Completed by Site Based Staff**

Thoroughly rinse and extract carpets	▼
Use proper equipment and dilution in future	▼
Dispose of wet carpet stored in mechanical room	▼
	▼
	▼
	▼
	▼
	▼

**Corrective Actions to be Completed by PPO**

Instruct staff on proper use of equipment	▼
instruct staff on proper procedures for chemical disposal	▼
Instruct staff on proper use of chemicals	▼
Clear condensate drain in 158	▼
	▼
	▼
	▼

# IAQ Assessment

Maplewood Elementary

Evaluation Date August 26, 2015

Time of Day 10:00 AM

Outdoor Conditions    Temperature 88.1

Relative Humidity 67.4

Ambient CO2 454

Fish	Temperature	Range	Relative Humidity	Range	CO <sup>2</sup>	Range	# Occupants
<span style="border: 1px solid black; padding: 2px;">112</span>	<span style="border: 1px solid black; padding: 2px;">74.9</span>	<span style="border: 1px solid black; padding: 2px;">72 - 78</span>	<span style="border: 1px solid black; padding: 2px;">46.4</span>	<span style="border: 1px solid black; padding: 2px;">30% - 60%</span>	<span style="border: 1px solid black; padding: 2px;">1268</span>	<span style="border: 1px solid black; padding: 2px;">MAX 700 &gt; Ambient</span>	<span style="border: 1px solid black; padding: 2px;">5</span>
Noticeable Odor		<span style="border: 1px solid black; padding: 2px;">No</span>	Visible water damage / staining?		Visible microbial growth?		Amount of material affected
Ceiling	<span style="border: 1px solid black; padding: 2px;">2' X 4' Lay in</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Walls	<span style="border: 1px solid black; padding: 2px;">Tack Board</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Floor	<span style="border: 1px solid black; padding: 2px;">Carpet</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;">No</span>		<span style="border: 1px solid black; padding: 2px;"></span>
Ceiling Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	HVAC Supply Grills Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	HVAC Return Grills Clean <span style="border: 1px solid black; padding: 2px;">Yes</span>	
Walls Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Supply Duct Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of Return Duct Clean <span style="border: 1px solid black; padding: 2px;">Yes</span>	
Flooring Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Ceiling at Supply Grills Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>		
Room Surfaces Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>					
Trash Removed		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Exhaust Fans Working		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Unapproved Chemicals / Cleaners in Room <span style="border: 1px solid black; padding: 2px;">No</span>	
Signs of Pests		<span style="border: 1px solid black; padding: 2px;">No</span>	Drain Traps Wet		<span style="border: 1px solid black; padding: 2px;">N/A</span>	Air Fresheners in Room <span style="border: 1px solid black; padding: 2px;">No</span>	
Room Cluttered		<span style="border: 1px solid black; padding: 2px;">No</span>	Food if Stored in Room is in Sealed Containers		<span style="border: 1px solid black; padding: 2px;">N/A</span>		
Mechanical Equipment Location			<span style="border: 1px solid black; padding: 2px;">FISH 105</span>			Mechanical Room Clean <span style="border: 1px solid black; padding: 2px;">Yes</span>	
Filters Installed Properly		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Filters Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Inside of HVAC Unit Clean <span style="border: 1px solid black; padding: 2px;">Yes</span>	
Condensate Pan Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>	Cooling Coil Clean		<span style="border: 1px solid black; padding: 2px;">Yes</span>		
Fresh Air Intake Location			<span style="border: 1px solid black; padding: 2px;">Roof top</span> ▼			Fresh Air Intake Free of Obstruction <span style="border: 1px solid black; padding: 2px;">Yes</span>	
Pollutant Sources Near Air Intake			<span style="border: 1px solid black; padding: 2px;">None</span> ▼				

**Observations**

**Carpet in room not cleaned properly - chemical / soap still in carpet - carpet scrubbed with floor machine but not with extractor - when carpet is wiped with wet towel soap foams up - HFSP stated chemical used was disposed of by pouring down drain.**

**Corrective Actions to be Completed by Site Based Staff**

Thoroughly rinse and extract carpets	▼
Use proper equipment and dilution in future	▼
	▼
	▼
	▼
	▼
	▼
	▼

**Corrective Actions to be Completed by PPO**

Instruct staff on proper use of equipment	▼
instruct staff on proper procedures for chemical disposal	▼
	▼
Replace carpet with tile 112 & 112B	▼
Repair HVAC to reduce CO2	▼
	▼
	▼
	▼